78.11

August, 1956

TEXAS Highways

Do You Know Texas ?

Padre, the longest of the coastal islands, lies across the front of five counties, forming a protective barrier, with the shallow Laguna Madre between it and the mainland.

This mysterious domain of sand and water had its first enchanted visitors in 1766, when an expedition under Diego Ortiz Parrilla made the first official survey. The name first given the fabulous stretch of beach was Isla Blanca, or White Island. Later it took on the name of Padre, after Padre Nicolas Balli, who received the island in a land grant from the Spanish Crown in about 1800.

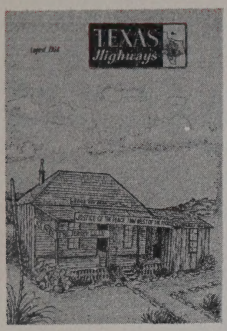
The hard-packed white sands and clear, aquamarine water make this island a year-round playground as well as a fine fishing spot. The Padre Island Causeway, a mile-and-a-quarter span that takes motorists across the Intracoastal Canal and the waters of Laguna Madre, links the southern tip of Padre with the mainland at Port Isabel. A toll causeway also links Padre with Corpus Christi.

The climate is near perfect at all times of the year, and salt cedar, goat's foot morning glories and other vegetation grow in all seasons. Birds are plentiful, along with some other types of small animals.

The ancient Karankawa Indian tribe had their summer camps there, and can be traced by arrowheads and bits of pottery washed up on the beach. Pirate strongholds of a bygone era left pieces of Spanish gold, and other evidences of their visitation amid the sand dunes.

Texans can well be proud of this Gulf Coast paradise.

About the Cover . . .



The insignificant looking structure pictured on our cover may need an introduction to some people, but its famous owner needs none. Judge Roy Bean, who held court and sold beer in this little shack in Langtry, is one of Texas' most colorful characters. There are very few corners of the world where stories of his peculiar type of law enforcement are not repeated. Handing down rulings on points of law with as little concern as if he were serving beer to his saloon customers, he was known throughout a wide area of the Southwest for some twenty years. Since his death the stories about him have multiplied, in many cases accuracy being sacrificed to make the tale better, and his posthumous fame has become world-wide. Our story on page 24 tells how the Highway Department is helping him to achieve immortality with its restoration of the old saloon which is now a museum — a very tame ending for the old shack with such a colorful beginning.

Vol. III

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TEXAS Highways

The purpose of this publication, "Texas Highways," is to furnish a medium for presenting practical ideas and information. Employees are invited and urged to submit suggestions and relate experiences which would benefit or be of interest to Highway employees. These conclusions and data are not necessarily endorsed by the Highway Department nor are they to be construed as instructions.

Photographic services are available and other assistance may be obtained, if desired, in preparing material for submission. All material and comments should be directed to the Information and Statistics Division, Austin 14, Texas.

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COMPILED AND EDITED
Information and Statistics Division

$ $ The New Federal Road

The new road bill passed by the United States Congress entails the expenditure of $32.5 billion in federal money over a thirteen-year period for a nation-wide highway modernization program.

Around $25 billion of this figure will be spent for improving and extending the country's interstate highway system, with the states supplying the remaining 10 per cent, according to improvements made within the individual states.

In addition to the interstate system, which will comprise mostly express highway construction, four-to-eight lanes wide, and will connect more than 200 major cities, the legislation provides for accelerating the regular federal-aid highway program. Combined federal and state expenditures under this program on a 50-50 basis presently run about $1.8 billion yearly. Congress has authorized for the next three years appropriations of $2,550,000,000, to be equally matched by the states, for a gradual step up of the regular federal-aid program. This provides for the extension and improvement of primary, secondary, and urban highway systems.

The new nation-wide interstate highway system will encompass 41,000 miles—2,900 of which will be in Texas. These 2,900 miles, which are Texas' share of the interstate system, must meet the design standards adopted by the American Association of State Highway Officials at a recent meeting in Chicago. When the system is completed, Texas' interstate system will be modern expressway with no frictional cross traffic, no railroad crossings, and with completely controlled access.

Earmarked for 1957 spending in Texas are federal funds in the amount of $117,400,000 dollars—to be matched by $63 million in state funds for a total of $180.4 million. Of this figure, $67.4 million will be spent on the Interstate Highway System, matched by $13 million in state money (for an $80.4 million total); $24.1 million will go toward the Primary System, matched equally by the state ($48.2 million total); $9.8 million will be spent on the Urban System, also matched by state funds ($19.6 million total); and the remaining $16.1 million is slated for the Secondary System, with an equal amount supplied by the state for a total of $32.2 million. This is an increase of $65 million in federal money over the old figures.

To expedite improvement of the interstate system, Congress included a provision which permits state highway departments to spend beyond their annual apportionments in contracts for the first three years of the program and be reimbursed later.

Appropriations of $448 million for the next three years are authorized for construction of park, forest, and other roads financed entirely by the federal government. This is also an expanded program.

Specific funds are now authorized for the first three fiscal years—1957-1959. When these first three years of the modernization program are completed, the Bureau of Public Roads, in cooperation with the state highway departments, will be directed under the legislation to revise estimates of cost so that new authorizations may be made by congress

THE FOLLOWING TABLE SHOWS COMPARATIVE AMOUNTS OF FEDERAL AND STATE MATCHING FUNDS FOR TEXAS UNDER THE NEW AND THE OLD FEDERAL AID HIGHWAY ACTS

(In millions of dollars)

	1957 Funds				1958 Funds Under New Bill			1959 Funds Under New Bill		
	New Federal	Old Federal	State	Total	Federal	State	Total	Federal	State	Total
Primary	3.6	20.5	24.1	48.2	24.6	24.6	49.2	25.3	25.3	50.6
Secondary	2.4	13.7	16.1	32.2	16.5	16.5	33.0	17.0	17.0	34.0
Urban	1.5	8.3	9.8	19.6	10.2	10.2	20.4	10.6	10.6	21.2
Interstate	57.5	9.9	13.0	80.4	97.7	9.7	107.4	114.9	11.5	126.4
Total	65.0	52.4	63.0	180.4	149.0	61.0	210.0	167.8	64.4	232.2

1960 Through 1969 - For 1960 and later Interstate Funds will be apportioned on basis of amounts required to complete the system as determined by periodic estimates. Allocations for systems other than the Interstate will be made under biennial Highway acts as in the past.

based upon the needs of each state.

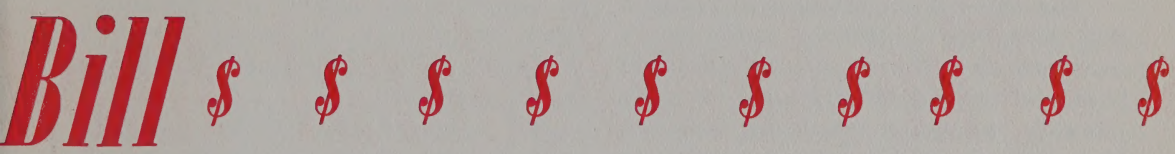
Vehicles using the interstate system are limited in size and weight to 18,000 pounds per single axle, 32,000 pounds per tandem axle, or a gross over-all weight of 73,280 pounds, Vehicle width must not exceed 96 inches. If, however, existing state laws enacted before July 1, 1956, are greater, they would prevail.

In Texas, the Highway Department expects to begin using its new federal-aid funds for highway construction with the August Letting, State Highway Engineer D. C. Greer, has announced.

"The July Letting was in the amount of about $12 million and exhausted the old interstate money, the old primary money, and the old urban money," Greer said. "We hope to get into the new money for the August Letting in the amount of $12 million. Of this, $8 million will be for the new Interstate System. The September Letting will be for $20 million, and the tempo will be increased later on."

AASHO DESIGN STANDARDS:

Design standards that will insure the safety, permanence, and utility of this important network of highways have been chosen, Greer said. This network, which has been renamed the



National System of Interstate and Defense Highways, is the backbone of the nation's highway systems. It carries more traffic per mile than any other comparable national system and includes the roads of greatest significance to the economic welfare and defense of the nation. It has been designed to move large volumes of traffic as speedily and as safely as possible.

In general, there will be no cross-overs at grade. Crossroads and railroads will either be separated or eliminated. This includes all at-grade intersections of public highways and private driveways. All sections of the Interstate System will be controlled-access type highways. This may be accomplished by acquiring access rights outright before construction or by the construction of frontage roads, or both.

The design speed of all highways

on the system is to be at least 70, 60, and 50 miles per hour for flat, rolling, and mountainous topography, respectively, and is to be at least 50 miles per hour in urban areas. For these design speeds gradients generally must be no steeper than 3, 4, and 5 per cent, respectively. Gradients 2 per cent steeper may be provided in rugged terrain.

Traffic lanes are to be at least twelve feet wide. Where the expected traffic volume of 1975 will exceed the capacity of a two-lane facility, a divided highway must be constructed. For lower volumes, the highway may be two-lane, but must be designed and located on the right of way in such a way that another two-lane pavement can be added later to form a divided highway.

The Interstate standards require that two-lane highways must be so designed that there will be sections with sufficient sight distance for safe passing and these sections must be long enough and frequent enough to handle the traffic volume. Where it is not possible to provide enough passing opportunities, a divided highway is to be provided instead. Climbing lanes, such as those provided on many Texas highways, may be added to the two-lane roads to increase their efficiency and capacity.

The exact width of right of way was not fixed by the highway officials, but some minimum widths were given as guides. The group felt that although wide widths are desirable, conditions may make narrow widths necessary and right of way need not be of constant width. In rural areas right-of-way widths for both two-lane and four-lane divided highways are to be at least 150 feet without frontage roads and 250 feet with frontage roads, plus additional widths needed for heavy cuts and fills. For urban areas the requirement is only that right-of-way widths shall be not less than what is needed for the necessary pavements, shoulders, median, outer separations, ramps, frontage roads, slopes, walls, border areas and other requisite appurtenances.

Medians in rural areas in flat and rolling topography are to be at least 36 feet wide and at least 16 feet wide in urban and mountainous areas. Narrower medians may be provided in urban areas of high right-of-way cost, on long and costly bridges, and in rugged mountainous terrain, but no median must be less than four feet wide. Curbs or other devices will be permitted where necessary to prevent traffic from crossing the median.

Shoulders at least ten feet wide (at least six feet wide in mountainous terrain), must be provided on the right of traffic. A safety walk must be provided in tunnels and on long-span structures on which the full roadway width, including shoulders, is not continued.

All culverts and bridges 150 feet or less in length are to be wide enough to accommodate the full roadway width, including the usable width of shoulders, and all structures must be at least fourteen feet high over the entire roadway width.

As insurance that the Interstate System will not be outgrown by the time it is completed, all design features required to accommodate the types and volumes of traffic that will exist in 1975 must be provided in the initial design of the highways although, where justifiable, construction may be in stages.

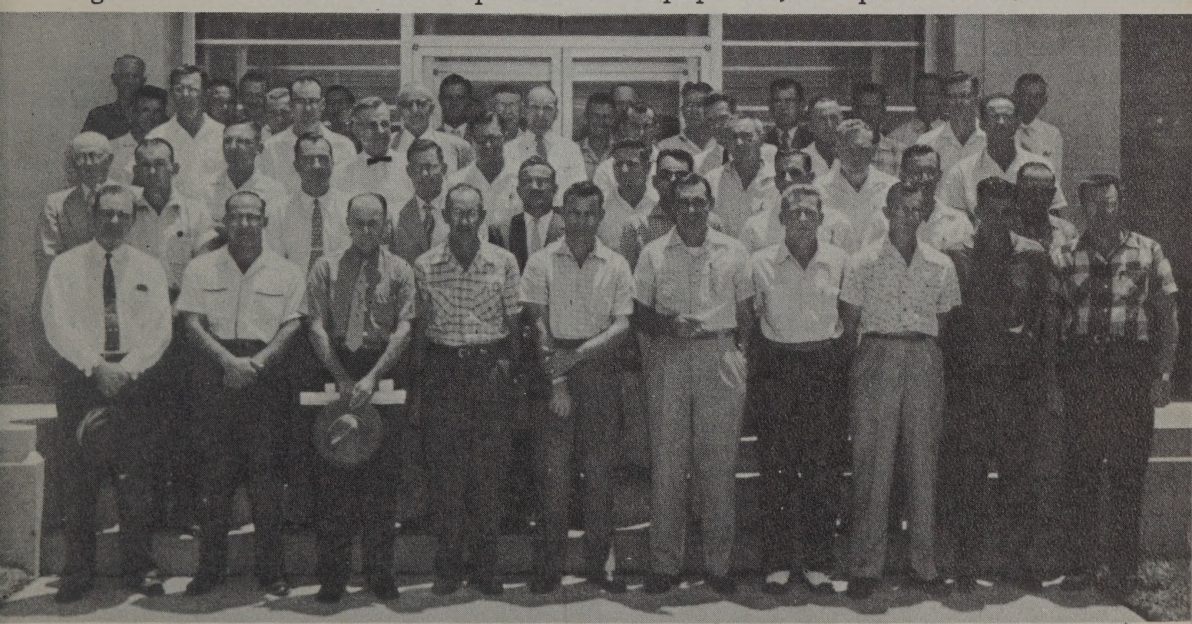
All highways on the Interstate System must meet these minimum standards adopted by the highway officials, but it is expected that designs will generally be made to values as high as are commensurate with conditions, and that values near the minimum will be used in design only where the use of higher values will result in excessive cost.

DISTRICT LABORATORY CONFERENCE

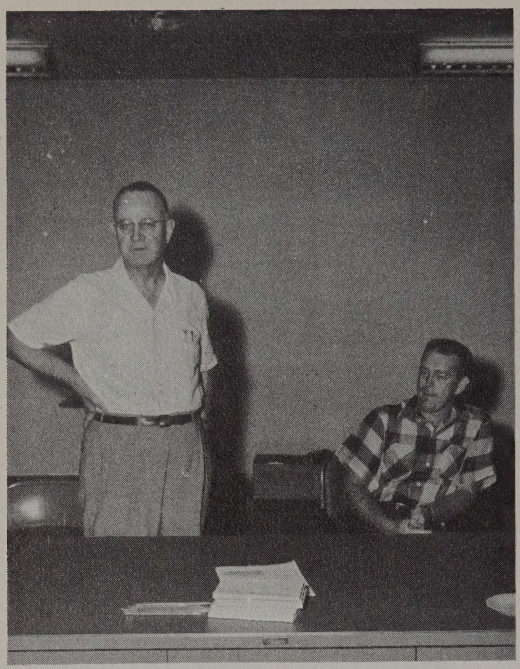
James E. Kelly, Senior Laboratory Engineer
District 9

On June 27, 1956, fifty men gathered together in the conference room at District 9 Headquarters with the set purpose of discussing mutual problems that affect the district laboratories. These men represented twenty districts, one expressway office, three Austin Divisions, The Texas Transportation Institute, The Bureau of Public Roads, and included three guests from the Louisiana Department of Highways.

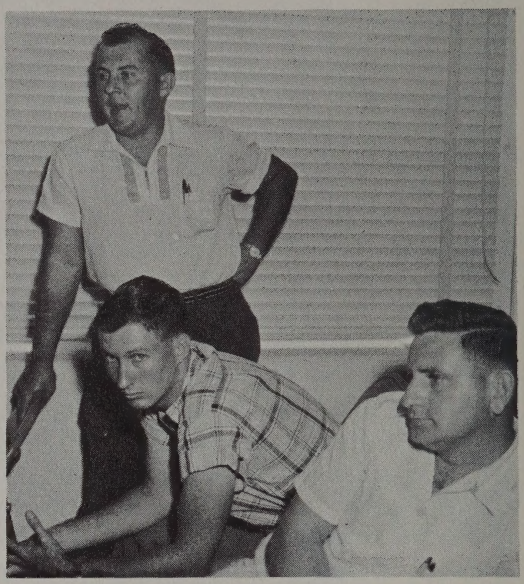
The meeting was planned so as to have no formal papers presented. An agenda of four very broad subjects was established. They were based upon suggested subjects submitted by the interested districts. The subjects were triaxial testing, controlled compaction, material exploration, and laboratory buildings, personnel, equipment, and procedures.



These men met in Waco on June 27 to discuss mutual problems that affect the district laboratories. They represented twenty districts, one expressway office, three Austin divisions, and other interested agencies.



District Engineer Thomas C. Collier welcomes the group to Waco. Jim Kelly, at right, observes proceedings.

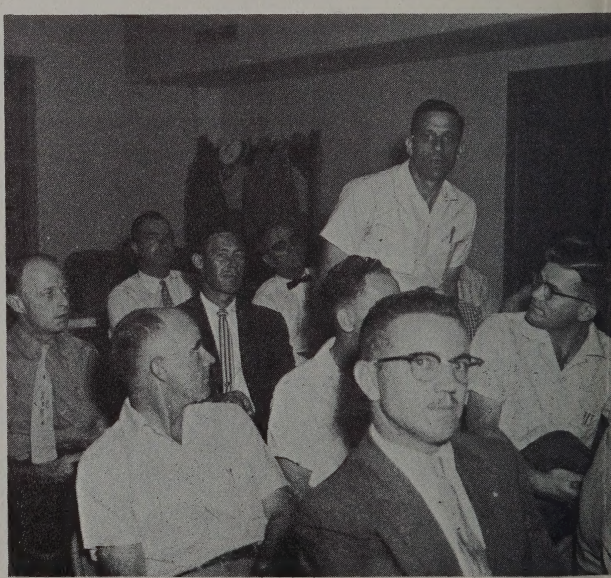


Discussing the use of Texas Triaxial Methods in Louisiana is W. H. Taylor Jr., from the Louisiana Highway Department.

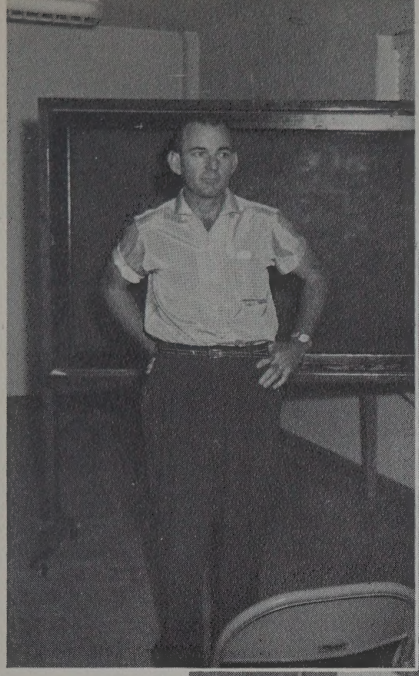
In order that all the men present would have at least a speaking acquaintance with triaxial testing, the meeting was started by Chester McDowell, Senior Soils Engineer of the Materials and Test Division, with a brief explanation of the triaxial theory and test. Then the entire group lanched into an open discussion that rolled smoothly through almost all aspects of triaxial testing, procedure, troubles, application, and advancements. Admittedly, not all were in complete agreement at all times, but those disagreements resulted in much stimulated thinking.

Most of the discussion was devoted to triaxial testing, but a good part of the second day was spent on controlled compaction and laboratory operation.

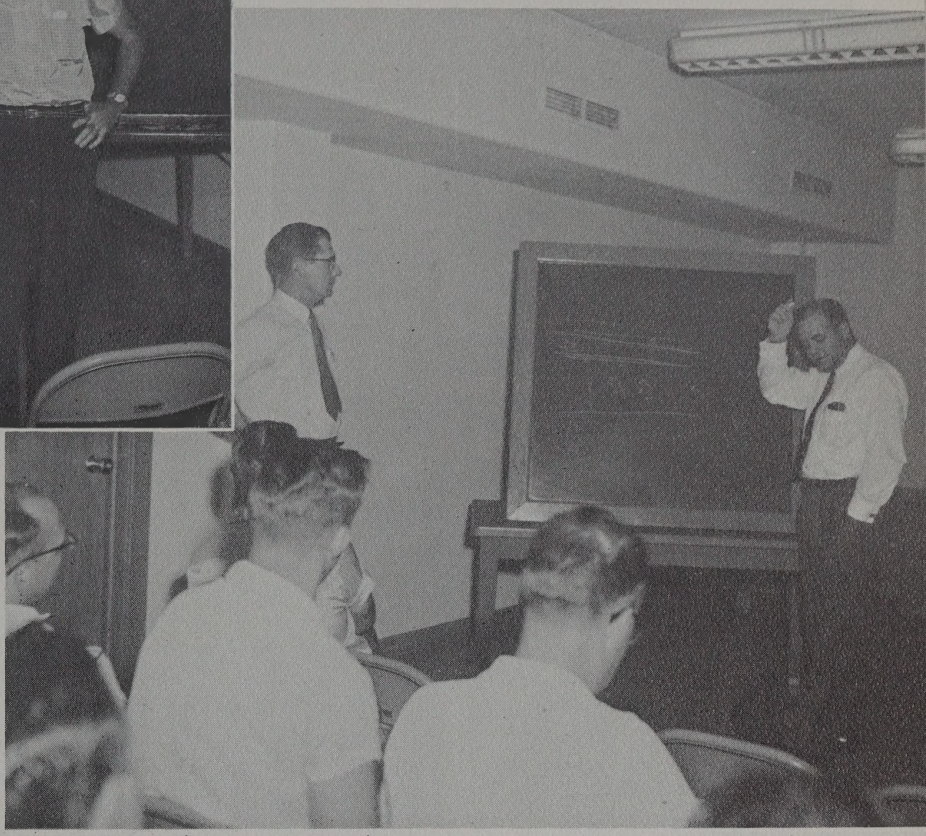
The meeting ended with a unanimous agreement that the meeting had been worth the effort, and that similar meetings should be held at regular intervals so that other subjects and ideals could be discussed.



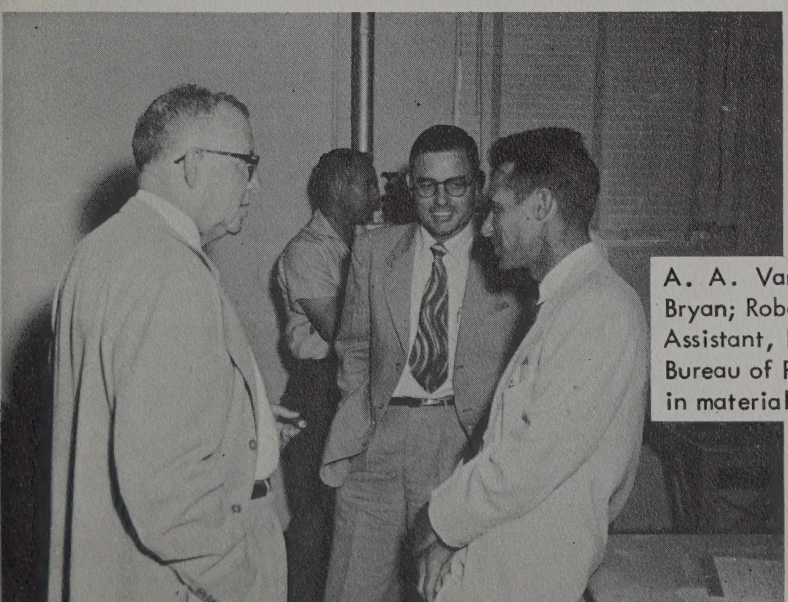
H. E. Lawson of Corpus Christi introduces himself to the group.



Avery Smith, Senior Soils Engineer from Materials and Tests Division in Austin, discusses methods of running triaxial quick tests.



Justin M. Bingham, Senior Laboratory Engineer from Fort Worth, discusses thickness design procedure for flexible pavements with Chester McDowell, Senior Soils Engineer with Materials and Tests Division in Austin.



A. A. Vance, Senior Resident Engineer, Bryan; Robert E. Long, Senior Engineering Assistant, Bryan; and Mr. Turner, with the Bureau of Public Roads, discuss a problem in materials.

T. S. Mitchell, Senior Laboratory Engineer, and J. N. Anagnos, Senior Laboratory Assistant, both from Houston, discuss problems along the Gulf Coast with H. E. Lawson, Chief Inspector, Corpus Christi.

Pictured in this District 13 caucus are Carl V. Ramert, Resident Engineer at Yoakum, Marvin A. Matusek, Senior Engineering Assistant at Yoakum, and William F. Moehlman, Resident Engineer at Gonzales.

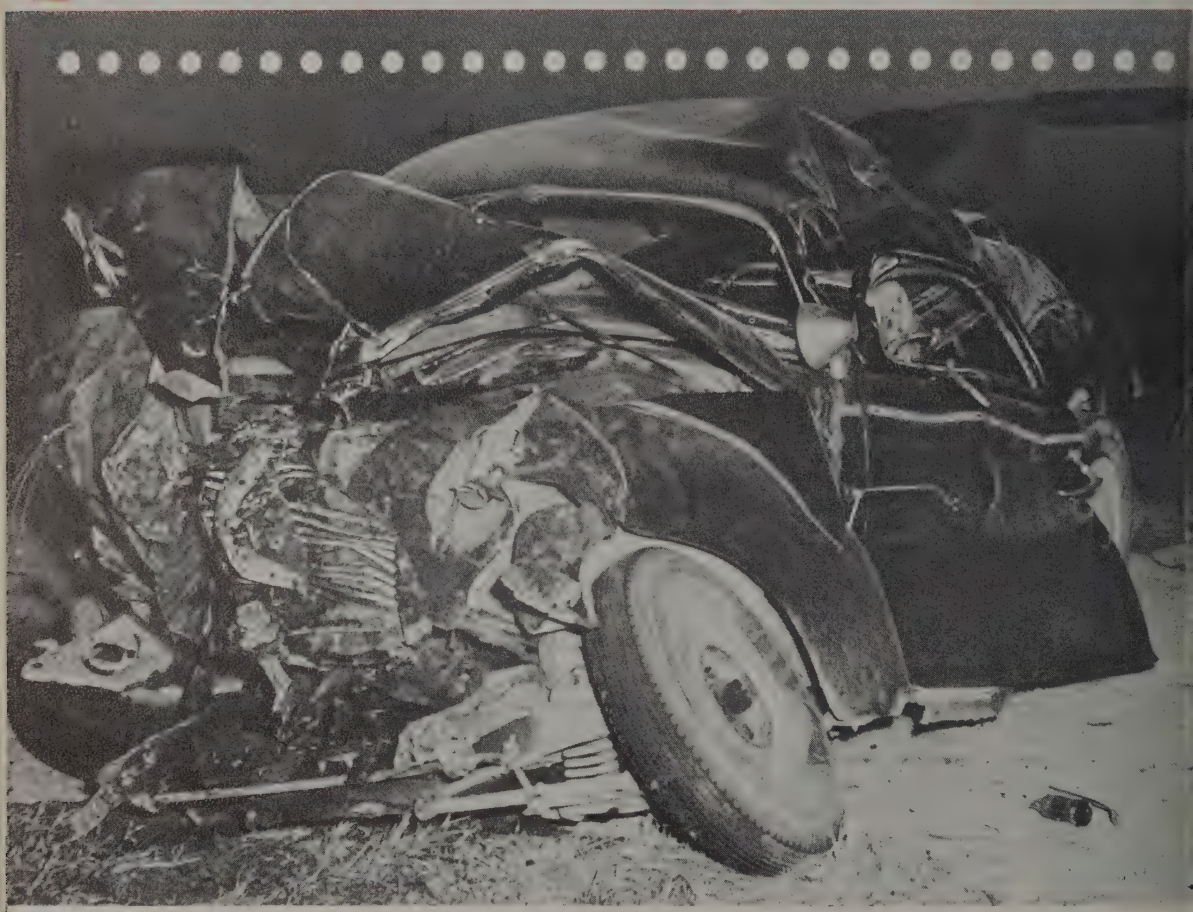
Getting acquainted before the meeting are Bob Waller, Senior Engineering Assistant at Lufkin; Jim Kelly, Laboratory Engineer at Waco; Charles W. Dell, Chief Inspector at Atlanta; and J. M. Nagle, Chief Inspector at Lufkin.

Jim Dalton and Wayne Jones, Junior Lab Assistants at Waco, watch a unit cut test as James A. Seward, Chief Inspector from Pecos, watches.

Inspecting laboratory compaction equipment are Winfred E. Clay, Senior Laboratory Assistant, District 24; C. W. Nall, Junior Laboratory Engineer, District 5; F. C. Stanley, Senior Resident Engineer, District 5; and R. P. Turner, Materials Engineer with the Bureau of Public Roads in Fort Worth.

Cooling off before sessions are Marvin A. Matusek, Senior Engineering Assistant from Yoakum, and Joseph R. Mica, Resident Engineer from Victoria.

punch card accident



We'd like to introduce you to a group of Highway Department employees who aren't very well known around the main building although they work in Austin. They are the Accident Analysis Section of the Division of Maintenance Operations. They are located in the Department of Public Safety Building out on Lamar Boulevard because their work involves the use of traffic-accident records of that Department which cannot be removed from the building.

There are four Junior Traffic Clerks - Mrs. Virginia Coleman, Mrs. Verna Hutchison, Miss Ora Jones, Mrs. Elizabeth Wilhoit, and a Traffic Analyst, Richard Crosby, who is in charge of the group. They work under the general supervision of N. K. Woerner, Chief of the Statistical Division of the Department of Public Safety, but they are actually a part of the Traffic Engineering Section of Maintenance Operations.

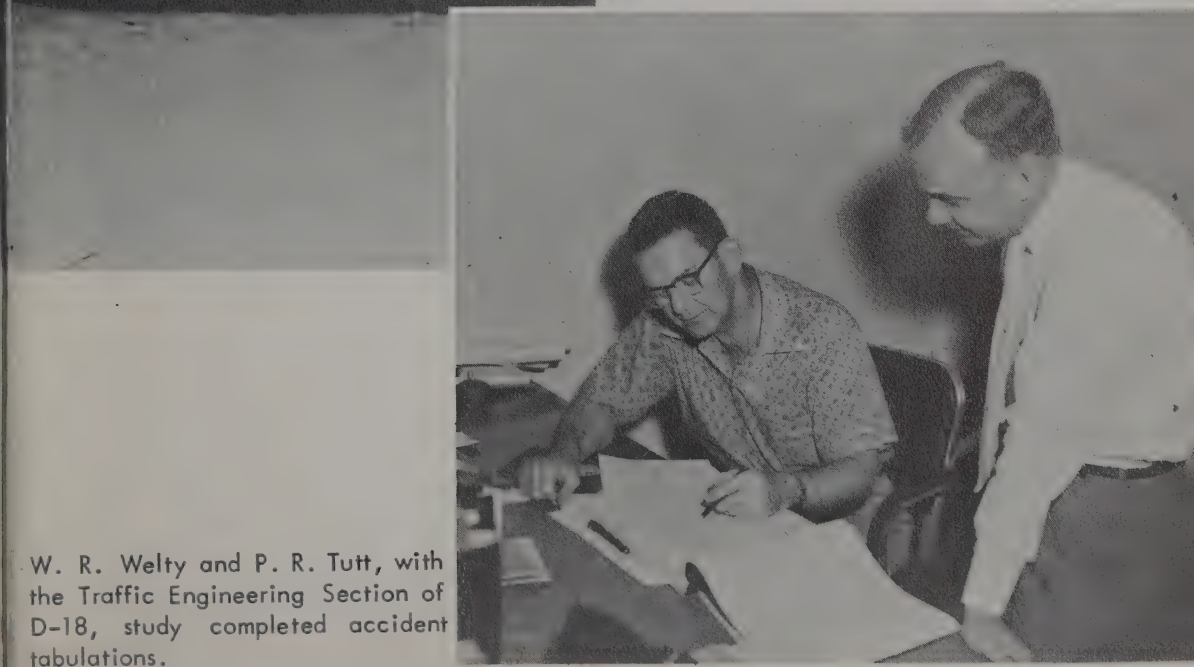
The work of these D-18 employees

P.R. Tutt, Senior Traffic Engineer
Maintenance Operations Division

analysis

consists primarily of converting information from original traffic accident records into numerical form so that it can be recorded on punch cards and analyzed, but they also prepare county traffic-accident spot maps which are distributed semi-annually to the districts. These maps show the location and severity of each accident occurring on rural highways within the county.

Up until the time this group was established in June of 1954, the Highway Department was able to make only meager use of traffic-accident records. Special studies were made, but the amount of work required for studies involving any very large number of reports was prohibitive. The accident reports are now handled mechanically, making it possible to deal with extremely large amounts of data in an economical and speedy manner. During 1955, 31,967 accidents were processed and tabulated



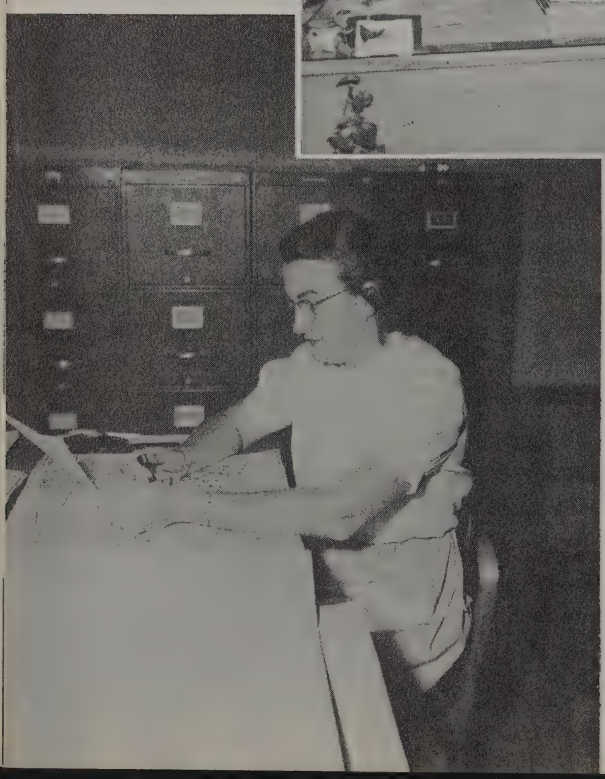
W. R. Welty and P. R. Tutt, with the Traffic Engineering Section of D-18, study completed accident tabulations.

in forms usable by the districts and various divisions of the Austin Office. The coding process is so complete that it is possible to reproduce an entire accident report except for the names of the drivers, from the coded material.

The coded data, after having been taken from the original report form, is sent to the Accounting and Tabulating Section of the Highway Planning Survey where it is recorded in the punch cards. Each year's accumulation of accident cards is then turned over to the I. B. M. Service Bureau which processes them through some rather remarkable machines able to perform near-miracles. The most impressive feat which they perform

N. K. Woerner, Chief of the Statistical Division of the Department of Public Safety, hands the accident reports for April 3 to Richard Crosby, Traffic Analyst for the Highway Department.

Betty Wilhoit, Ora Jones, and Virginia Coleman code accident reports for punch card analysis.



Verna Hutchison, Junior Traffic Clerk, adds data to the Traffic Accident Spot Maps.

Wanda Lebo and Marguerite Franklin of the Accounting and Tabulating Section of Highway Planning Survey record the coded data into punch cards.

Gus Williford, Supervisor, tabulates accident data on an IBM machine while Pete Smith, Chief Supervisor of the Accounting and Tabulating Section of D-10, looks on.

in connection with this work is the calculation of accident rates for each Control Section of the Texas Highway System. This involves 20,000 solutions of a rather involved mathematical formula which can be accomplished by the machines in about two hours but would consume hundreds of man-hours.

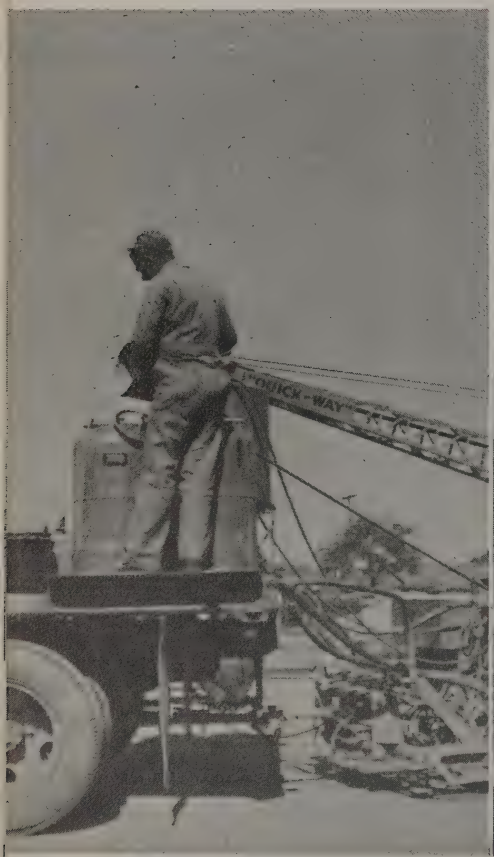
The work of this particular group is finished with the completion of the punch cards, but this is the first and most important step in the accident analysis system which makes it possible for Highway Engineers to evaluate roads, conditions, and improvements on the basis of accident experience.

Loading Aids on a Center Stripe Machine

R. N. Jennings, District Maintenance Engineer
District 7

The paint and bead containers on the bed of the truck used for center striping take up nearly all available space. This makes the task of filling the various tanks difficult and somewhat hazardous.

District 7 shop and center striping personnel have devised a platform and steps that make the operation of filling the containers easier and perhaps less hazardous.



From this platform, the job of filling tanks is much easier.

Steps leading up to the tanks put them in easy reaching distance.

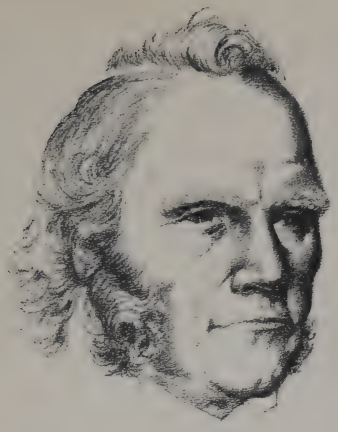
Standing on the steps, this employee does not have to stretch or reach to fill the container.

The platform folds up when not in use.

CONCRETE PAVEMENT BLOW-UP

J.M. York, Assistant District Engineer
District 11

What exactly causes a concrete pavement to blow up? Engineers in every state discuss and cuss this. The latest blow-up on a Texas highway is pictured below. It occurred on U. S. 59 about one mile north of Livingston on July 12.



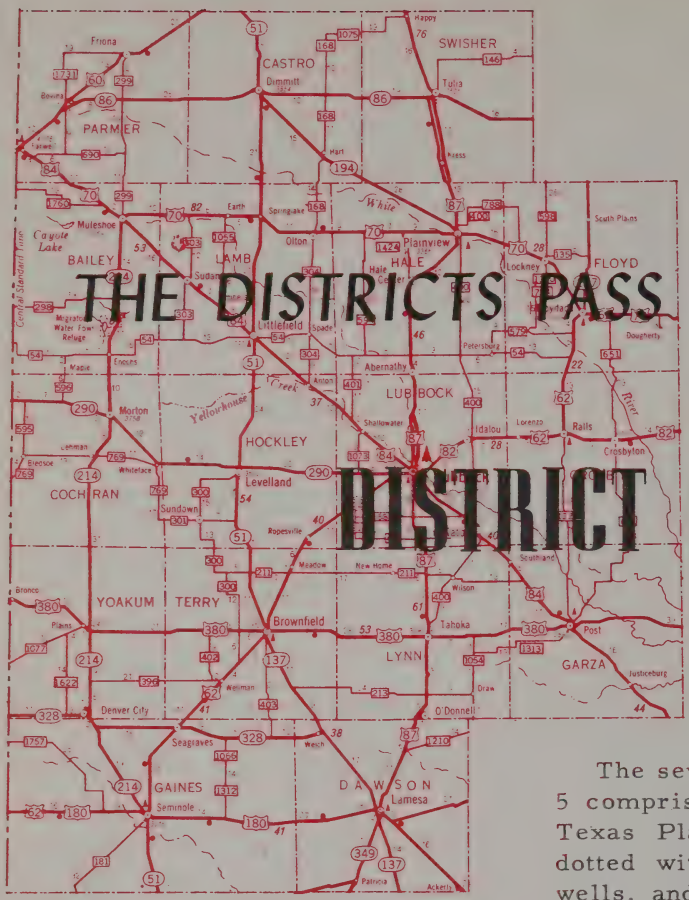
Sam Houston Memorial Drive

They called him the "hero of San Jacinto." He was perhaps the most colorful -- and controversial -- figure Texas ever produced.

Sam Houston's influence on the town of Huntsville is apparent at once. His old homestead, included in the Sam Houston Memorial Park, is a state shrine. To the west of his home are the Sam Houston springs. The teachers' college high on a bluff bears his name.

In 1947 the drive leading to his grave, Spur 94, off U.S. Highway 90 and State Highway 45 was designated by the Highway Department as the Sam Houston Memorial Drive. Two city blocks in length, it is cared for by the city of Huntsville. Redbuds, magnolias, and San Augustine grass line the route.

His grave bears a large monument showing Houston on a horse, with two angels on either side. The inscription says simply, "The world will take care of Houston's fame."



THE DISTRICTS PASS IN REVIEW

DISTRICT 5

The seventeen counties in District 5 comprise the heart of the great Texas Plains. This gentle terrain, dotted with fence rows, irrigation wells, and field after field of wheat and grain, is truly the prairie. Dust storms are frequent, rain storms scarce, but the land still produces a wealth of economy.

The economy of this entire area consists largely of three things: farming, livestock, and oil. Ranching has for many years been foremost in this region -- as many towns, such as Roundup, Muleshoe, Lariat, Whiteface, Bronco, Sundown, and others would indicate.

Lubbock is headquarters for District 5, and that city is the metropolis of the South Plains Region. Known as "the hub of the plains," it is the third ranking inland cotton market in the world, and according to the latest Texas Almanac, is the leading Texas city in production of cotton.

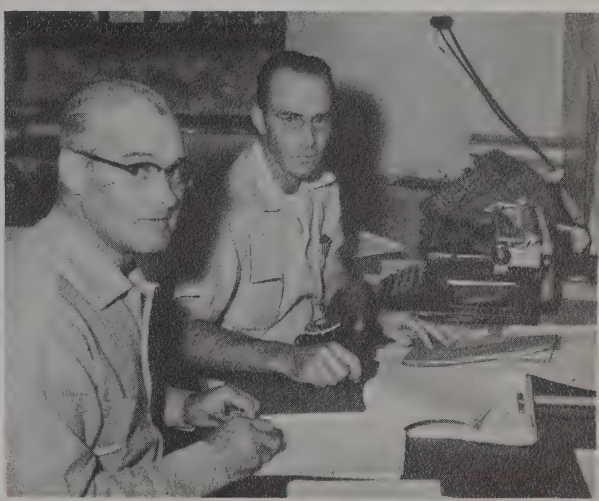
In Mackenzie State Park is a segment of Yellowstone Canyon where the last fight between buffalo hunters and Indians in Lubbock County took place in 1877.

The camera catches S. C. McCarty, District Engineer, and R. W. Tucker, Assistant District Engineer, after a talk on right of way problems for four-lane divided highways.

Cities in this District are, for the most part, cotton or grain markets, farm markets, cotton ginning or compressing centers, and diversified livestock industry locations. Petroleum refineries and other oil industries, along with ranching and some intensively cultivated farm areas are to be found scattered throughout District 5.

The 392 employees of this District are well aware that the more than 3,300 miles of roads they construct and maintain are important links in the wide-spread area of the plains. The cold, icy winters, the hot summers, drifting sands, and the poor drainage of the terrain present a few of the problems the District faces in building and maintaining roads. And in an area where distance is nothing and accessibility everything, these roads are the life line of the Great Texas Plains.

J.D. Willson, Senior Maintenance Superintendent and TEXAS HIGHWAYS reporter, signs expense statement.



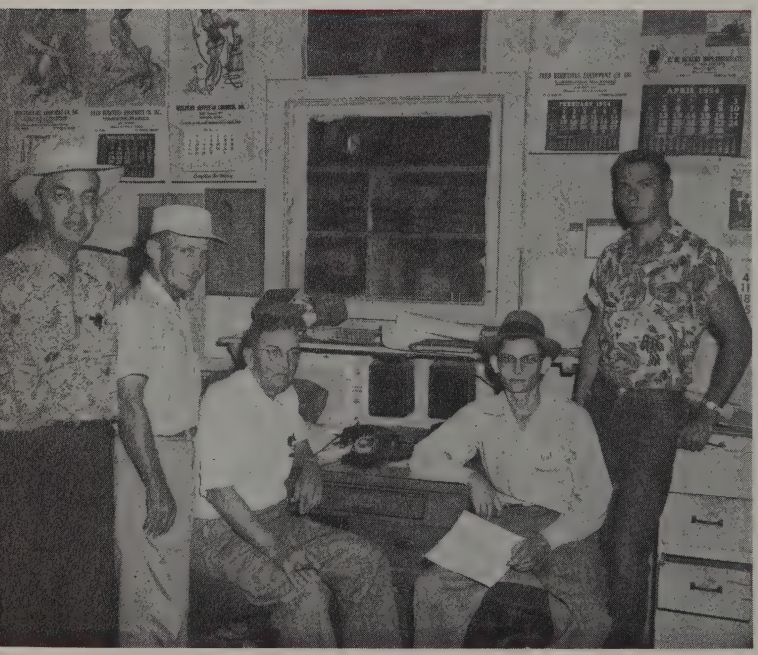
Discussing the monthly estimate for seal coat are H. Bruce Bryan, District Maintenance Engineer and Bert Shanks, Junior Office Assistant.

Looking pleased over sprinkler irrigation plans for new office grounds are J. B. Sparks, Construction Foreman, and C. P. Mills, Senior Engineering Assistant.

Velma Fuller, Junior Clerk, flashers a big smile as she and Carl Green Jr., Junior Engineering Assistant, prepare to mail out speed zone strip maps.

Junior Clerk, Tina De Shazo, hands a letter to F. B. Ogle, Advisory Engineer, who is on modified service.

In every office, there's a ringing telephone. Mrs. Ruby Jackson, District Office Clerk and Secretary to the District Engineer, answers this one.



Roll Call in the Warehouse -- John C. Ferguson and Vance Onstott, Semi-skilled Laborers; Max L. Morris, Senior Warehouseman; Harold L. Dunn, Warehouseman; and Gerald Clark, Semi-skilled Laborer.

Keeping the motor grader ior Equipment Supervisor, ed Laborer.

Margaret Weaver, Junior Clerk, Quentin Wright, Senior Office Assistant, and Roland Lewis, Junior Office Assistant, pause while making S. & L. distribution.

Working on E. & R. distribution are Janice Owen, Junior Clerk; Ruth Richmond, Junior Clerk; and Bill Warren, Junior Office Assistant.

rolling are O. R. Justiss, Sen- and Lee Roy Templeton, Skill-

Looking over the paint-stripe machine are Gerald C. Owen, Skilled Laborer; Darrell Sarton, Common Laborer; Donald Williams, Common Laborer; Gus Hinz, Common Laborer; Marlo Davis, Semi-skilled Laborer; and Walter Ross, Common Laborer.

Watching screen analyses on hot-mix designs are Lab Assistants Nolan A. Purser, Verle D. Powers, Charles Salmon, and Ray Lathem; and Lab Engineer C. W. Nall, Jr.

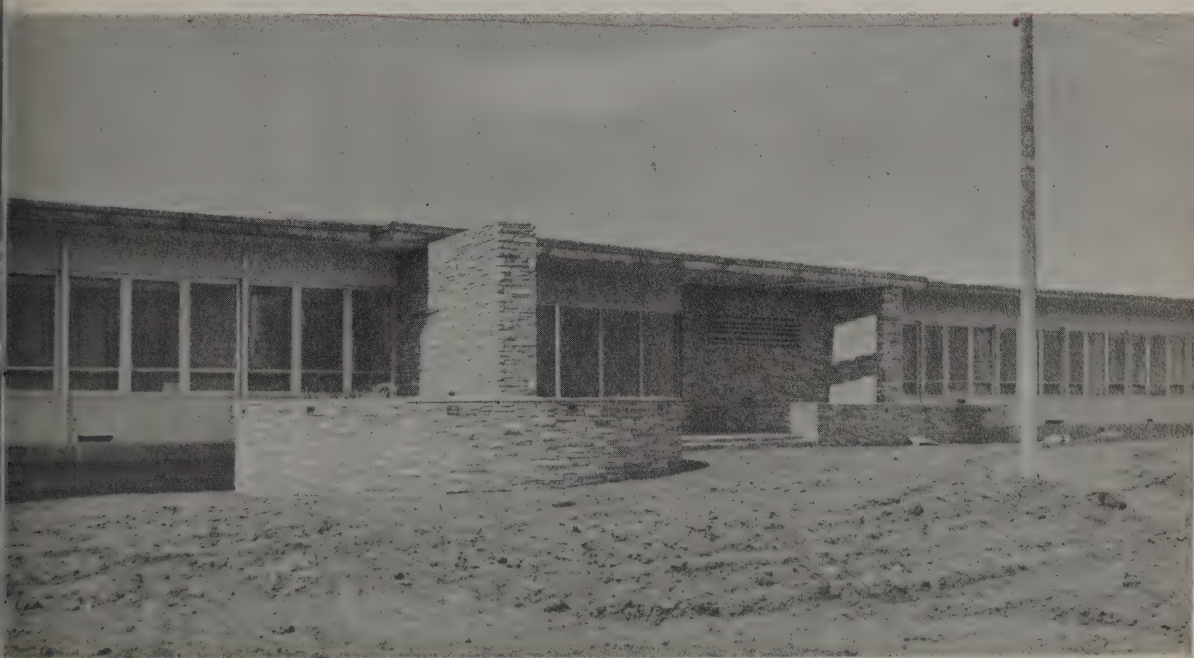
Stenciling the signs that tell a traveling public necessary information are Louis Rabalais, Skilled Laborer; Eugene Bradford, Sign Supervisor; and Richard Wynn Breedlove, Skilled Laborer.

Julian F. Smith, Office Engineer, and Benny W. Wright, Senior Draftsman, supervise curb and gutter construction on new district office building.

Now under construction is this new district laboratory building.

John Tom Warden, Skilled Laborer, prepares to begin a welding job on a gas tank.

Considering this big maintainer tire are O. A. Chilcutt, Skilled Laborer; Roy E. Thornburg, Common Laborer; Harry Board, Utilityman; and James Stewart, Semi-skilled Laborer.



District 5 is proud of the new district office building, to be completed in the near future.

Lawman Extraordinary

A visit through Val Verde county takes one back to that rip-roaring time in Texas' history when arguments were settled with hot lead, and when a man's worth was measured by his horse, his gun, and his shooting ability.

At Langtry, west of Del Rio, is the old home of "The Law West of the Pecos," where Judge Roy Bean dispensed beer and law in a manner to win him everlasting fame. Restored to its original look by the Texas Highway Department in 1939, the combi-

When the Department took over the care and maintenance of the old Judge Roy Bean place, it looked like this.

Today, visitors find the Judge Roy Bean museum in good repair, with many relics from the Roy Bean Era.

nation saloon, billard hall, and court house of Judge Bean stands in mute evidence of his activities of long ago.

The ox yoke shown here was presented as a gift to the Department by Harold W. Maysent of Kettle Falls, Washington, and has been added to the collection of other relics and museum pieces housed in the "Law West of the Pecos" at Langtry.

Every mile of the highway along the route from Langtry to Del Rio offers a diversification of scenic beauty, and for those visitors who wish to visit the old historic site, a loop built from the new highway to the old town accommodates thousands of sight-seers every year. A caretaker is on duty and admission is free ... courtesy of Texas Highway Department.

The ox yoke shown here was presented as a gift to the Department by Harold W. Maysent of Kettle Falls, Washington, and has been added to the collection of other relics and museum pieces housed in the "Law West of the Pecos" at Langtry.

What's in a Name?

An Indian blanket on a creek bank gave rise to the name of this town located on U. S. Highways 377 and 67 in eastern Brown County, about eleven miles northeast of Brownwood. Pioneer settlers found the blanket on a creek near the site of the town and used it as a landmark. Eventually, the name Blanket was applied to the town and was accepted by the Post Office Department when the post office was granted in 1875. Unlike many small towns, Blanket has more than held its own poplationwise. In 1900 it had a population of 304, in 1940 it had increased to 327 and at the time of the last census, the town had sixteen business establishments and 361 residents.

paint shop techniques

Louis Salvatierra, Skilled Laborer
District 22

A very satisfactory method of striping and lettering type "H" barricades is now being used in the District 22 paint shop. This process employs a temporary heavy tracing vellum paper open screen.

The screen frame is 37 inches by 47 inches. Therefore, it is necessary to paint half the barricade in each of two setups. With this method, a quantity of panels can be processed at one time with only the desired number of stands assembled, leaving others for replacements or future barricades.

First set-up of panels for barricades completed and stacked for drying.

Louis Salvatierra preparing screen on first set-up for barricade panels.

Second and final set-up in screening panels for barricades.

Completed Type H Barricade.

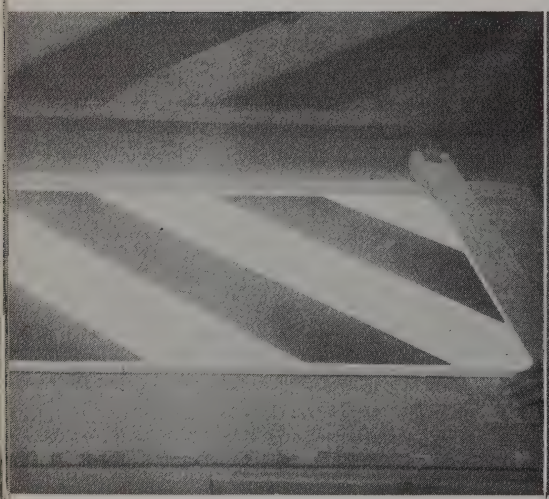
Barricade with warning flags in place.

A sandbag, weighing 25 to 30 pounds and suspended by a hook and chain approximately 6 inches above the pavement, does very well in anchoring barricades against gusts of wind from passing trucks.

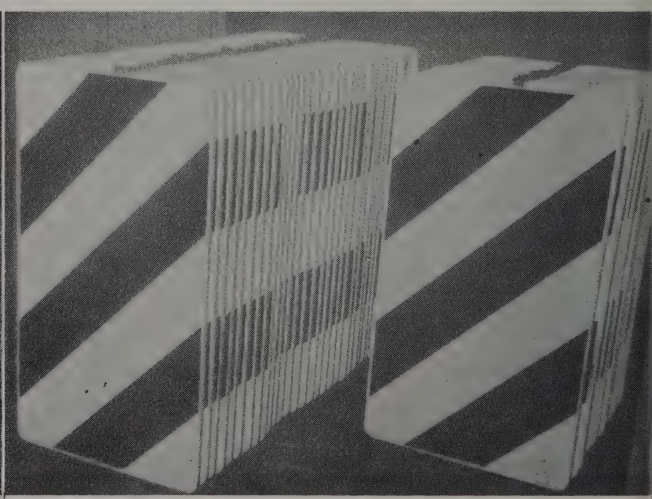
Side view of same barricade with sandbag suspended by hook and chain.

Louis Salvatierra processing obstruction markers for ends of narrow bridges using permanent paper screen made of tracing vellum paper shellacked on silk.

W. H. Burk, Santana Hernandez and E. R. Babb assisting in screening operations. More than 600 markers have been painted using this screen with no visible damage to the screen.



Completed obstruction marker after screening.



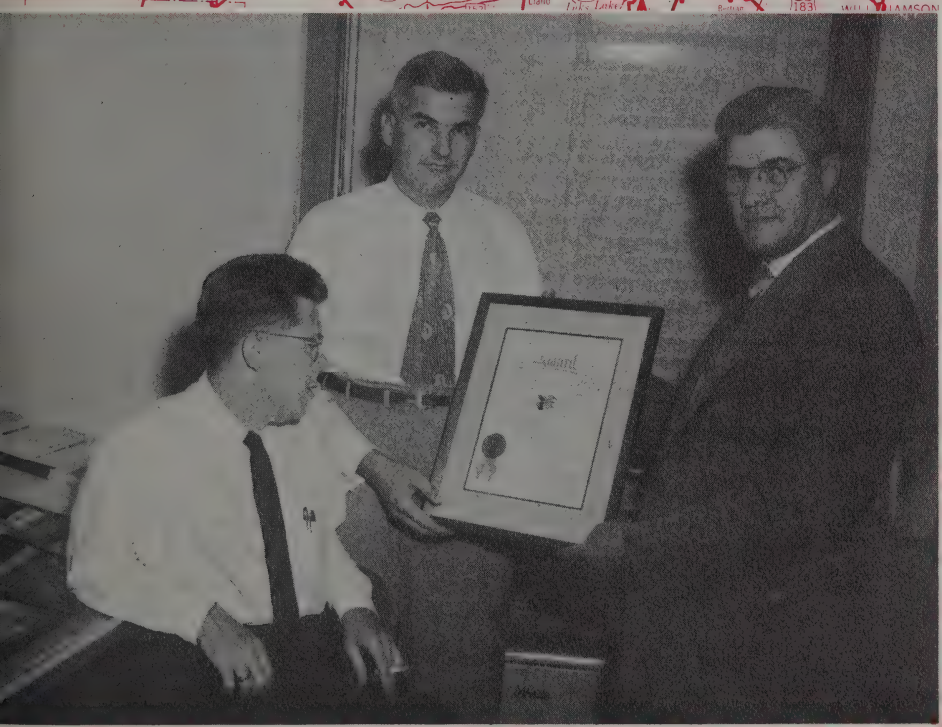
Obstruction markers stacked for drying.

1955 Map Wins Award

The Highway Department's 1955 Official Highway Travel Map has received the top award of excellence from the Lithographers National Association in their sixth annual national competition.

Sponsored to promote the highest standards in lithographic production, the competition had a total of 1,970 entries from which winners were selected. Judging was done by a group of experts in the field of art, advertising, and production.

Winners will be shown in Chicago and New York, after which they will form the 1956 Traveling Exhibit which will be shown in major cities throughout the United States.



Cartographer, Watt Harris, looks on as Tom Taylor, Map Supervisor, and Luther Thompson of Steck Company display the award received from the Lithographers National Association for the 1955 map.

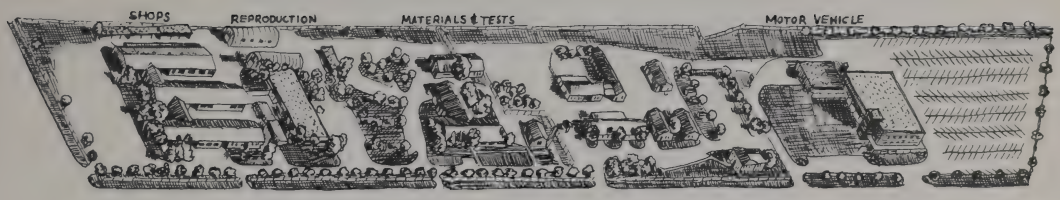
camp r. m. hubbard

Just east of the M. & P. railroad crossing on Thirty-fifth Street in Austin is the site of Camp R. M. Hubbard. These 16.66 acres of land house facilities which play a vital role in the work of the Texas Highway Department. Because of the importance of the functions there, many queries have been made as to why it is called Camp Hubbard, and what goes on there. Some associate the name with a military installation, while others associate it with an early-day Commission head, and, actually, there is truth in both lines of thought.

After the First World War, some division work was carried on at Camp Mabry, a military camp near Austin. Land owned by the government during the war was deeded to the state, and shops and equipment there were given to the newly organized Highway Department. Since the equipment and shops were used in maintenance, the employees were moved there to work for more convenience. This field office became the "Camp," and in 1932, when work was underway for a new building on state-owned land, the word "Camp" carried over and attached itself to the name designated for the new building.

The new shop and warehouse were to be named for R. M. Hubbard, one of the first Commission members. The present generation is quite possibly unfamiliar with the contributions Mr. Hubbard made to the early start of the Highway Department while he served as member and chairman of the Commission from 1918 to 1925. The site where Camp Hubbard now stands was to be named after him in recognition of his achievments for the Department.

Since the original shop and warehouse were built in 1932-34 at Camp Hubbard, other buildings have grown to house various sections of the Department. The location of all buildings is generally known as Camp Hubbard. The Equipment and Procurement Division (D-4) has Equip-



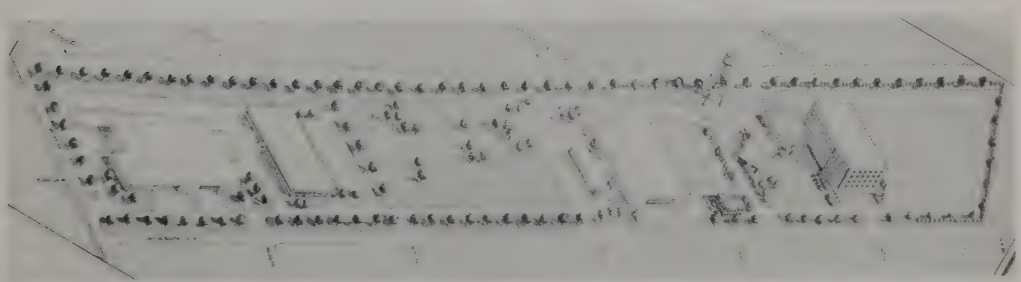
ment Repair Shops, including garages for storage of the main office vehicles along with a warehouse and storage facilities. Materials and Tests (D-9) has laboratories for conducting various tests and studies.

The Reproduction Section of the Operations Division (D-21) has a building and a quonset hut. All operations concerning mimeograph, photostat, multilith, blueprint, and photographic processes are carried on here.

There are a number of buildings originally built for the old District 14 - one office houses the Accounting Division's Field Auditors, Supply and Shipping Section of the Information and Statistics Division (D-16), and the Insurance Division (D-20). The latter compiles accident data, checks medical reports on employees injured while on duty and investigates questionable claims.

Motor Vehicle Division (D-12) recently moved into its new office on the Camp Hubbard grounds. This division has charge of all vehicle registration, and issues certificates of title to all motor vehicles sold or encumbered in Texas.

Camp Hubbard is an important extension of the Texas Highway Department in Austin. To date it houses seven divisions or sections of divisions and plans are now underway to continue expanding the department in the direction of "Camp Hubbard."



FIRST AID REMINDERS

There are three important things to look for after an industrial accident.

Give first aid, however, only if you know the proper and accepted methods.

1. **Bleeding.** Control blood flow—by direct pressure over the wound, if it is safe to do so.

2. **Stoppage of Breathing.** Supply fresh air (and artificial respiration if necessary).

3. **Shock.** Keep the patient lying down, and try to make him comfortable.

Conserve his body heat, by placing blankets or garments under him as well as on top of him.

If the patient is fully conscious, give him fluids.

Acceptable fluids, which should be warm, include tea, coffee, milk, broth, and water.

* * *

Collapse often follows injury. It may be recognized as one of the following "Red, White or Blue" types, and should be treated as indicated.

Signs of collapse	Type of collapse	Treatment
Red face and skin. Pulse strong. Skin usually hot and dry	Red	Resting position, head elevated. Cool the patient's body, gradually. Give no stimulant.
White or pale face and skin. Pulse usually weak and rapid. Skin may be cold and clammy.	White	Lying-down position, head low. Warm the patient's body. Give stimulant only if patient is fully conscious.
Blue face and skin. Pulse may be absent.	Blue	Lying-down position, head low. Warm the patient's body. Give stimulant only if patient is fully conscious. Apply artificial respiration if patient is not breathing.
Some injuries followed by collapse	**Type of collapse**	**Special notes**
Severe bleeding	White	No stimulant until bleeding is stopped.
Carbon Monoxide Poisoning	Blue	Skin may be cherry-red, because of gas in blood.
Drowning	Blue	
Electrocution	W to B	Breathing may stop again after it starts. Watch for this.
Fainting	White	
Heat Exhaustion	White	Don't confuse with heatstroke.
Heatstroke	Red	Don't cool the body too rapidly.
Shock	White	
Skull Fracture	R, W or B	Give no stimulant.
Sunstroke	Red	Don't cool the body too rapidly.

Remember: Be sure of your first aid before you apply it.

Articles which have appeared in past issues of TEXAS HIGHWAYS indicate that highway maintenance men never know when they may be called on to render first aid to someone injured. Below are a few first-aid reminders which appeared in the California Safety News.

Personnel Changes

H. L. Arno, Director of Personnel

DISTRICT 2

County Residency, Decatur: Jerome P. Kearby Senior Resident Engineer, resigned May 31, 1956.

County Residency, Decatur: Leslie F. French changed from Resident Engineer to Senior Resident Engineer May 14, 1956.

District Headquarters, Fort Worth: Floyd L. Smith, Senior Designing Engineer, resigned May 14, 1956, to accept retirement.

DISTRICT 5

County Residency, Floydada: James F. Potts, Senior Resident Engineer, died June 2, 1956.

DISTRICT 14

County Residency, Georgetown: Frank P. Faris changed from Resident Engineer to Senior Resident Engineer June 1, 1956.

County Residency, Georgetown: James F. Todd changed from Resident Engineer to Senior Resident Engineer June 1, 1956.

County Residency, Taylor, to County Residency, Georgetown: Carl A. Grau, Resident Engineer, transferred as Senior Resident Engineer June 1, 1956.

DISTRICT 18

County Residency, Denton: Robert W. Batey changed from Resident Engineer to Senior Resident Engineer June 1, 1956.

County Residency, Kaufman: John V. Blain, Jr., changed from Resident Engineer to Senior Resident Engineer June 1, 1956.

County Residency, Kaufman: Jack R. London changed from Resident Engineer to Senior Resident Engineer June 1, 1956.

County Residency, McKinney: Robert L. Cagle changed from Resident Engineer to Senior Resident Engineer June 1, 1956.

County Residency, McKinney: Kenneth H. Cole changed from Resident Engineer to Senior Resident Engineer June 1, 1956.

County Residency, Waxahachie: Cyril W. Rhodes, Jr., changed from Resident Engineer to Senior Resident Engineer June 1, 1956.

County Residency, Waxahachie: Milton M. Watkins, Jr., changed from Resident Engineer to Senior Resident Engineer June 1, 1956.

District Headquarters, Dallas: George B. Mann changed from Resident Engineer to Senior Designing Engineer June 1, 1956.

District Headquarters, Dallas: Louis E. Clarke changed from Resident Engineer to Senior Designing Engineer June 1, 1956.

District Headquarters, Dallas: N. T. Popejoy changed from Senior Resident Engineer to Senior Designing Engineer June 1, 1956.

District Headquarters, Dallas: Richard H. Rawles, Jr., changed from Resident Engineer to Senior Resident Engineer June 1, 1956.

Expressway, Dallas: Francis X. Fallwell changed from Designing Engineer to Senior Designing Engineer May 16, 1956.

Expressway, Dallas: Herred M. Hood changed from Designing Engineer to Senior Designing Engineer June 1, 1956.

Expressway, Dallas: Robert L. Yielding changed from Resident Engineer to Senior Resident Engineer May 16, 1956.

Capsule Statistics for Busy Executives . . .

Last year the death toll on our streets and highways reached 38,300. About 1,350,000 people were injured, including more than 100,000 persons who were left with permanent physical impairments. Dollarwise, the National Safety Council estimates the annual loss from traffic accidents at nearly $5 billion.

In 1955, on all rural highways, nationwide, there were 8.4 fatalities per 100 million vehicle-miles, in contrast with 3.2 for the representative rural freeways. . . The Automotive Safety Foundation has estimated that modernization of the Interstate System will save 3,500 lives a year.

From a Bureau of Public Roads Release.

A "good thing."

. . . I have just returned from delivering a load of that Good Gulf Gasoline to the north part of Clay County.

While driving on our state-maintained highways I realized the great amount of work and planning that is necessary to keep these roads in condition. I also realized just how fortunate Henrietta and Clay County are to have a person like C. C. Watkins and his crew to take proper care of these highways.

The occupation of each of us depends greatly on our state highways. Our lives and property are entrusted to these highways and the men that are responsible for them.

I, for one, am very proud of the many miles of state-maintained roads that are in Clay County, and of Mr. Watkins. The highways are responsible for the greater part of my sales and I must depend on them to get the needs to my customers.

I believe in advertising a "good thing" and I think that our highways and the men that keep them are certainly a "good thing."

Jim Koethe
Henrietta, Texas

Rural mail boxes. . .

. . . On behalf of the Post Office Department, the patrons, and employees of the El Campo Post Office, I wish to convey to you, and through you to the employees of your district, our sincere appreciation for the very fine job you did on the rural mail boxes located on the highways and farm to market roads in your district.

In all of my years with the service I have never seen as good a job on mail boxes, and we want you to know that we appreciate your work, it is a credit to our county. . .

W. W. Harriss, Postmaster
El Campo, Texas

Word from the author of "Tanganyika to Texas"

. . . I want to take this opportunity of thanking you for the recent editions of the TEXAS HIGHWAY magazine, which I have found most interesting. I think of all the states I visited during my recent trip to America, I received a warmer welcome in Texas than in any other.

I am grateful for the past copies of the magazine and shall be most obliged if I could be put on your permanent mailing list, so that I may maintain ties with the state in which I learnt so much . . .

Harry Land
Dar es Salaam, Tanganyika

Clear those highways, partner, there's a plane a 'comin'. . .

. . . My buddy and I are going on a trip from Ohio here down to Florida and across the southern part of the country, through Texas and on to California. I have one of your pictorial maps of your state, and it shore is pretty! Now here is what I would like to know—would you send me a late map of the same kind? And also we will be flying my own plane, would you folks permit us to land on a nice stretch of highway and pull it over to the side so we could rest a bit or maybe get our bearings just in case we should become lost? I wouldn't want to get arrested on our trip so I thought I would ask you folks first. . .

George W. Dayton
Bridgeport, Ohio

A pat on the back. . .

. . . The citizens and property owners of El Indio have asked me to write you, and your department, and thank you for the beautification of our main street, Indio Boulevard.

It is such an outstanding piece of work that it is noticeable from the top of the hill north of the Cuevas Bridge.

The trees and shrubs had grown so profusely that they had become a hazard, particularly on our corners. The trees have been trimmed, the shrubs eliminated, and shoulders graded until it looks like a street through a well cared for park.

The writer, and his friends, thank you very much for your interest in our safety, and our town. . .

Gus H. Krausse
El Indio, Texas

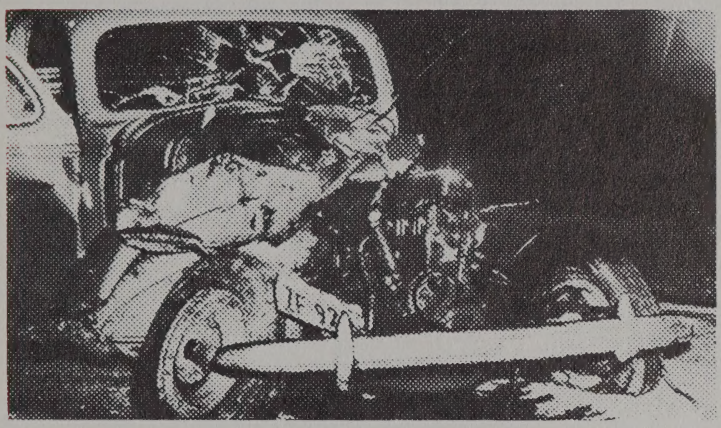
Texas tops 'em all. . .

. . . We liked your fine highways, expressways, and roadside stops. We traveled in eleven states and Texas was the best to drive in. . .

Carl Christensen
Omaha, Nebraska

WANT THE TRUTH?

Up to 6,000 traffic-accident deaths this year won't be "accidents" at all!



Forty thousand Americans will die in traffic accidents this year, according to the present mounting rate. And nearly six thousand of those deaths will be *crimes*—because of *driver negligence*—according to the FBI!

HERE'S HOW YOU CAN HELP STOP THESE TRAGEDIES

1. Drive safely and courteously yourself. Observe speed limits and warning-signs. **Where drivers are careful and obey the law, deaths go DOWN!**
2. Insist on strict enforcement of *all* traffic laws! **Wherever traffic laws are strictly enforced, deaths go DOWN!**

Support your local safety organization

Published in an effort to save lives

GREEN CROSS FOR SAFETY

PUBLIC SERVICE ADVERTISING COUNCIL